

Examples of typical applications



Window lift plate, pulleys and drum

Particular requirements:

Mechanical strength, low tendency to creep, good friction and wear resistance in operation

Products:

NX-20, TX-11H, F10-02, F10-03H, F20-03, FG2025



Conveyor chain links

Particular requirements:

Low noise, high mechanical strength, low tendency to creep, good friction and wear resistance in operation

Products:

TX-31, FL2007, F10-02, F20-03, F25-03

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Disclaimer

Although the information and recommendations set forth herein are presented in good faith and believed to be correct, we recommend that persons receiving information must make their own determination as to its suitability to their purposes prior to use. The information is based on natural colored products only through relevant test methods and conditions. It is the obligation of the customer to determine whether a particular material and part design is suitable for a particular application. The customer is responsible for evaluating the performance of all parts containing plastics prior to their commercialization.

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ACETAL COPOLYMER

KEPITAL®



KEPITAL®
Materials/mating materials for
tribological applications

FL-EU-10/12

Friction-modified POM: Improved energy efficiency

Improving energy efficiency (e.g. to reduce the power needed to drive conveyor systems) by focussing on reduced coefficients of friction in tribological systems is of ever-increasing importance to adding value to technical products.

Friction-modified KEPITAL® is an efficient means of preventing early component failure caused by high coefficients of friction and/or wear. Its properties such as low coefficients of friction, reduced stick-slip effects and outstanding wear resistance make the KEPITAL® friction modified polyacetal portfolio one of the innovative and powerful quality leaders among the grades of friction-modified polyacetals.

	Interacting materials		
	POM / POM	POM / Steel	POM / Plastics
Low wear	TS-22H TS-25H FL2020	CX-20 TX-21, TX-31	TS-22H TS-25H NX-20
Low friction	TS-25H NX-20 TX-21, TX-31	FL2020 CX-20 TX-21, TX-31 FM2020	TS-25H
Low noise	NX-20 TX-21, TX-31	CX-20 TX-21, TX-31	

Portfolio: High performance over a wide range

KEP's experience in the development of specifically friction-modified POM copolymer grades is a matter of many years.

Where its well-balanced mix of mechanical and tribological properties turns the unmodified standard grade into a prime choice already, the multifaceted KEPITAL® Tribo product portfolio may be considered a real milestone because materials specifically chosen to interact with the friction-modified KEPITAL® now contribute to providing optimized system solutions.

Additive	KEPITAL® grades	
Standard Additive	PTFE	FL2020
	Silicone	TS-22H
		TS-25H
		TS-25A
	Chalk	CX-20
Molybdenum disulfide	FM2020	
Special Additive	Silicone Masterbatch	SC-22
	TX-11H	TX-21
		TX-31
		NX-20

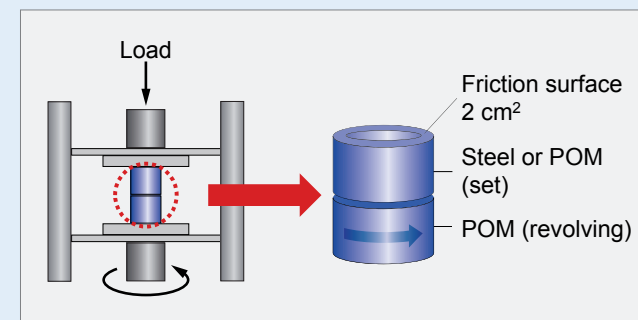
Friction-modified KEPITAL® products are the right choice for applications comprising technical components in relative motion. Conventional areas of application include conveyor chains or gear wheels which are the basis of the long-lasting marketing success of KEPITAL®. KEPITAL® NX-20 is KEP's new and next generation multifunctional dynamic friction grade. It is characterized by low noise (squeaking) and excellent mechanical properties. In terms of friction, this grade interacts well with plastics or metals.

Model trial: Rotary tribometer (Siebel/Kehl)

The coefficient of sliding friction is not a material characteristic but a factor dependent on the tribological system and its many different parameters. KEP deploys a rotary tribometer (Siebel/Kehl) to produce valid and repeatable measuring results.

In the test setup illustrated below, two cylindrical test specimens are exposed to a defined axial force applied through a spindle. The sliding surface area is approx. 2 cm² with the top specimen being set and the bottom specimen performing a linear motion (rotation).

This test array is particularly well suited to identifying the coefficient of friction μ of any material combination.



Outstanding tribological properties of KEPITAL®

Additives such as chalk, PTFE or silicone oil homogeneously embedded and evenly dispersed throughout the polymer matrix of KEPITAL® (incorporated lubrication) ensure dry running and help to improve the tribological properties of the overall system by reducing friction and wear. The chart below may illustrate the positive effect.

